

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for determining an operational condition of a particle detection system, the particle detection system comprising ~~at least one~~ a plurality of sample inlets for receiving a plurality of sample flows from a monitored region, the method comprising the steps of:

conducting an upstream measurement of a flow rate through ~~the at least one~~ sample inlet using a flow sensor and a single ~~an~~ extension means such that the measuring is performed at a point remote from the sampling inlet, at or near ground level~~[[·]]~~; and

determining an operational condition of the particle detection system in accordance with the measured flow rate;

wherein the step of conducting an upstream measurement is repeated for at least one more of the sample inlets using the flow sensor and extension means.

2. (currently amended): A method of testing the operation of pollution monitoring equipment, the pollution monitoring equipment comprising a particle detection system, the particle detection system comprising a plurality of sample inlets for receiving a plurality of sample flows from a monitored region, the method comprising the steps of:

measuring the upstream flow rate through ~~at least one~~ sampling inlet of ~~a~~ the particle detector system using a flow sensor;

determining an operational condition of the pollution monitoring equipment in
accordance with the measured flow rate;

wherein the step of measuring the upstream flow rate includes using ~~an~~ a single extension
means such that the measuring is performed at a point remote from the sampling inlet, at or near
ground level; and

wherein the step of measuring the upstream flow rate is repeated for at least one more of
the sample inlets using the flow sensor and the extension means.

3. (currently amended): A method as claimed in claim 2 further comprising the
steps of:

repeating the step of measuring the upstream flow rate through respective sample inlets
after a predetermined time interval;

determining the operational condition by comparing respective flow rate measurements
for each of the sample inlets.

4. (original): A method as claimed in claim 3 wherein the predetermined time
interval comprises one or more of:

the occurrence of an incident;

the occurrence of a maintenance action;

regular calendar periods.

5. (previously presented): A method as claimed in claim 3, wherein:

the step of measuring the upstream flow rate, in the first instance, is performed upon one of:

installation;
cleaning; and
repair of the pollution monitoring equipment.

6. (currently amended): A method as claimed in claim 2, wherein the pollution monitoring equipment comprises one or more of:

a plurality of at least one-sampling inlets of an aspirated particle detector system;
a particle detector;
a sampling pipe network of an aspirated particle detector system;
a portion of a sampling pipe network of an aspirated particle detector system;
an aspirated particle detector system.

7. (previously presented): A method as claimed in claim 1 wherein the step of measuring the flow rate is performed using an ultrasonic flow sensor.

8. (cancelled)

9. (currently amended): A method as claimed in claim 1 wherein the operational condition comprises one or more of:

~~a)~~—particle detection system sensitivity;
~~b)~~—particle detector sensitivity;

- e) ~~sampling pipe network obstruction;~~
- d) ~~sampling inlet obstruction.~~

10. (currently amended): Testing apparatus for pollution monitoring equipment of a particle detector system, the apparatus comprising:

a flow sensor arrangement adapted to form a sealed fluid communication path between a flow sensor and one of a plurality of sampling inlets ~~a sampling inlet~~ of the detector system, wherein the flow sensor determines the flow rate through the sampling inlet so as to allow a

determination of an operating condition of the pollution monitoring equipment; ~~and~~

wherein the sealed fluid communication path further includes ~~an~~ a single extension means between the flow sensor and the sampling inlet; ~~and~~

wherein the flow sensor arrangement is adapted to form a sealed fluid communication path with respective sampling inlets of the detector system.

11. (currently amended): Apparatus as claimed in claim 10 wherein the pollution monitoring equipment comprises one or more of:

a plurality of ~~at least one~~ sampling inlets of an aspirated particle detector system;

~~_____~~ a particle detector;

a sampling pipe network of an aspirated particle detector system;

a portion of a sampling pipe network of an aspirated particle detector system;

~~_____~~ an aspirated particle detector system.

12. (currently amended): Testing apparatus for testing a particle detector system comprising:

a connector adapted to sealingly engage one of a plurality of sampling inlets ~~a sampling inlet~~ of a particle detector system;

a sensing device for testing flow rate through the sampling inlet of the particle detector system, the sensing device comprising a flow sensor for conducting an upstream measurement of flow through the sampling inlet, wherein the sensing device is operatively connected to a flow data storage;

~~an~~ a single extension means providing sealed fluid communication between the connector and sensing device such that a flow path is formed between the sensing device and the sampling inlet via the connector;

wherein the connecting device is adapted to sealingly engage respective sampling inlets of the particle detector system.

13. (currently amended): Apparatus as claimed in claim 11 wherein the sensing device further comprises comparator means for comparing a measurement of the flow sensor with a prerecorded flow measurement of each of the sampling inlets stored in the flow data storage.

14. (previously presented): Apparatus as claimed in claim 12 further comprising an articulated connection intermediate the connector and extension means for providing relative movement between the connector and extension means.

15. (previously presented): Apparatus as claimed in claim 12 further comprising an articulated connection intermediate the sensing device and extension means for providing relative movement between the sensing device and extension means.

16. (previously presented): Apparatus as claimed in claim 14 wherein the articulated connection comprises a flexible collar.

17. (previously presented): Apparatus as claimed in claim 10 wherein the flow sensor comprises an ultrasonic sensor.

18. (currently amended): A method of field testing a particle detector system, the method comprising the steps of:

connecting a flow sensing apparatus including an a single extension means to one of a plurality of a-sampling inlets of an air sampling system;

measuring the air flow rate into the sampling inlet;

comparing the measured air flow with a previously measured air flow at the time of commissioning the detector system;

determining from the comparative measurements whether a component of the detector system requires maintenance;

repeating the connecting step for at least one or more of the plurality of sampling inlets and subsequently performing the measuring, comparing, and determining steps.

19. (currently amended): A method as claimed in claim 18 wherein the component of the detector system comprises any one or more of:

a plurality of at least one sampling inlets of an aspirated particle detector system;

a particle detector;

a sampling pipe network of an aspirated particle detector system;

a portion of a sampling pipe network of an aspirated particle detector system;

_____ an aspirated particle detector system.

20. (currently amended): Apparatus adapted to perform one of:

a) ~~determine~~ an operational condition of a particle detection system;

b) ~~test~~ the operation of pollution monitoring equipment; or

e) ~~field test~~ a particle detector system, said apparatus comprising:

processor means adapted to operate in accordance with a predetermined instruction set,

said apparatus, in conjunction with said instruction set, being adapted to perform the

method as claimed in claim 1.

21. (currently amended): A computer program product comprising:

a non-transitory computer usable medium having computer readable program code and

computer readable system code embodied on said medium for one of:

a) ~~determine~~ an operational condition of a particle detection system;

b) ~~test~~ the operation of pollution monitoring equipment; or

e) ~~field test~~ a particle detector system, within a data processing system, said computer

program product comprising:

computer readable code within said computer usable medium for performing the method

steps of claim 1.

22. - 23. (cancelled).

24. (currently amended): Apparatus adapted to perform one of:

- a) ~~determine an operational condition of a particle detection system;~~
- b) ~~test the operation of pollution monitoring equipment; or~~
- e) ~~field test a particle detector system, said apparatus comprising:~~

processor means adapted to operate in accordance with a predetermined instruction set, said apparatus, in conjunction with said instruction set, being adapted to perform the method as claimed in claim 18.

25. (currently amended): A computer program product comprising:

a non-transistory computer usable medium having computer readable program code and computer readable system code embodied on said medium for one of:

- a) ~~determine an operational condition of a particle detection system;~~
- b) ~~test the operation of pollution monitoring equipment; or~~
- e) ~~field test a particle detector system, within a data processing system, said computer~~

program product comprising:

computer readable code within said computer usable medium for performing the method steps of claim 18.

26. (currently amended): The method of claim 1, wherein the particle detection

system includes a pipe in which said ~~at least one sample inlet is~~ plurality of sample inlets are

provided and a particle detector downstream of the ~~at least one sample inlet~~plurality of sample inlets.

27. (currently amended): The method of claim 2, wherein the particle detection system includes a pipe in which said plurality of sample inlets are ~~at least one sample inlet~~ is provided and a particle detector downstream of the ~~at least one sample inlet~~plurality of sample inlets.

28. (currently amended): The testing apparatus of claim 10, wherein the particle detection system includes a pipe in which said ~~sampling inlet is~~plurality of sample inlets are provided and a particle detector downstream of the ~~at least one sample inlet~~plurality of sample inlets.

29. (currently amended): The method of claim 18, wherein the particle detection system includes a pipe in which said ~~sampling inlet is~~plurality of sample inlets are provided and a particle detector downstream of the ~~at least one sample inlet~~plurality of sample inlets.